MODIFICATION OF LAND APPLICATION PERMIT
APPENDIX "D" TO PERMIT No. LA-000050-02

PERMITTEE NAME:The Amalgamated Sugar Co., LLC (TASCO), Paul, Idaho

EFFECTIVE DATE
OF THIS MODIFICATION: November 2006

Complete Description of Modification:

I Schedule A is hereby modified, adding the following conditions:

10. The annual hydraulic limit of two hundreds twenty five (225) million gallons (MG) is removed (see Memorandum dated October 30, 2006). The management units MU-005004 (Goitiandia acreage, 87 acres) and MU-005005 (East Gillette acreage, 89 acres) are transferred from Offsite to Onsite Acreage and are permitted for wastewater-land treatment year round, according to the limits set forth in the table below. No limit in this table shall be exceeded.

Site Loading Limits[1]	MU-005004 (Goitiandia) & MU-005005 (East Gillette)
Total Acres (loadings in this table shall be calculated using specific acreage for each HMU)	176
WW[2] Loading – Growing Season Maximum Hydraulic Loading Rate (ac-in/ac-yr or million gallons (MG)), each HMU	Growing Season (GS) Hydraulic Loading Rate shall be no greater than the Irrigation Water Requirement (IWR[3]) using data from the tables of the following University Of Idaho web site: http://www.kimberly.uidaho.edu/water/appndxet/index.shtml. IWR is equal to the Mean IR data from these tables divided by the irrigation system efficiency. In lieu of these tables, current climatic and evaporation data, or 30-year average data may be used to calculate the IWR, as defined in the Note 3 below this table. Assume no carryover soil moisture and a leaching rate of zero in calculating the IWR. Application shall generally follow consumptive use rates for the crop throughout the season.
WW[2] Loading – Non-Growing Season (NGS[6]) Maximum Hydraulic Loading Rate (ac-in/ac-yr or million gallons (MG)), each HMU	9.5
Maximum COD Loading, seasonal average (lb/ac-day), each HMU	50 lb/acre-day, seasonal average for GS (condensate and process water) 25 lb/ac-day, seasonal average NGS (condensate and process water)
Maximum Non-Volatile Dissolved Solids (NVDS[4]) Loading Rate (lb/ac-	4,000 lb/ac total (for WW[2]), of which 642 lb/ac during NGS (condensate and process water)

Site Loading Limits[1]	MU-005004 (Goitiandia) & MU-005005 (East Gillette)
yr), each HMU	
Maximum Nitrogen Loading Rate (lb/ac-yr), each HMU (condensate, process water and all other sources including waste solids and supplemental fertilizers)	150% of typical crop uptake[5] or UI Fertility Guide, of which 150 lb/ac for non-growing season only
Maximum Phosphorus Loading Rate (lb/ac-yr), each HMU (condensate, process water and all other sources including waste solids and supplemental fertilizers)	150% of typical crop uptake
Buffer Zones and Wellhead Protection	All buffer zones must comply with, at minimum, local zoning ordinances. The following buffer zone distances shall be provided between the land application areas and the following: a) Process water: • Inhabited Dwellings: 100 feet or more[1] • Public Access Areas: 15 feet or more • Natural Surface Waters: 30 feet or more • Man-made Surface Waters: 15 feet or more • Private Wells: 150 feet or more[2] • Public Water Supply Wells: 300 feet or more[2] • Irrigation and Monitoring Wells: 10 feet or more b) Condensate water (for Total Coliform less or equal to 18 CFU/100ml): • Inhabited Dwellings: 75 feet or more[1] • Public Access Areas: 15 feet or more • Natural Surface Waters: 25 feet or more • Man-made Surface Waters: 15 feet or more • Private Wells: 125 feet or more[2] • Public Water Supply Wells: 250 feet or more[2] • Irrigation and Monitoring Wells: 5 feet or more 1. Existing buffer zones for dwellings are allowed until final determination of buffer zones are made upon review and approval of the facility's buffer zone plan. 2. Or as determined by Domestic Well Location Acceptability Analysis. If necessary, Best Management Practices (BMPs) to prevent runoff from the site shall be used in the buffer zones around all areas where runoff may potentially occur. New BMP's shall be reviewed and approved by DEQ prior to implementation. Berms and other BMPs shall be used to protect the well head of on-site wells.

Site Loading Limits[1]	MU-005004 (Goitiandia) & MU-005005 (East Gillette)
Allowable Crops	Crops grown for direct human consumption (those crops that are not processed prior to consumption) are not allowed.

1) The values in the table represent maximum limits of various constituents that may be applied.
2) WW= wastewater (condensate and process water) and supplemental irrigation water
3) IWR=Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop, and calculated monthly during the growing season (GS). The equation used to calculate the IWR is:
$IWR = (CU - P_e) / E_i$

   CU is the monthly consumptive use for a given crop in a given climatic area. CU is synonymous with crop evapotranspiration

   P_e is the effective precipitation. CU minus Pe is synonymous with the net irrigation requirement (IR)

   E_i is the irrigation system efficiency. To obtain the gross irrigation water requirement (IWR), divide the IR by the irrigation system efficiency.

   The terms CU, P_e, and E_i can be determined by site specific values or other scientifically justified values.

4) NVDS=non-volatile dissolved solids; this is a rough measure of inorganic TDS (salts). It may be calculated by subtracting volatile dissolved solids (VDS) from total dissolved solids (TDS). This total includes wastewater (condensate and process water) and supplemental irrigation water NVDS.

5) Typical crop uptake= the median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.

6) GS=growing season, defined as April 1 through October 31; NGS=non-growing season, defined as November 1 through March 31.

II Schedule B is hereby modified as follows:

3) The facility shall monitor the operation and efficiency of the wastewater land application and report data and calculations as per Schedule B of the current permit, all previous appendixes that apply and the additional requirements as presented in this modification under item “4” below.

4) The following is additional required monitoring and is in addition to the Schedule B requirements.

Item	Parameter	Sampling Frequency	Monitoring Point	Type of Sample
Condensate water	Total Coliform	Weekly, when irrigating	Condensate pump	Grab
Irrigation water requirement	Volume (million gallons and acre-inches)	Monthly	Each HMU	Calculate IWR for each crop type

III Schedule C is hereby modified as follows:

13) No later than six (6) months after issuance of this permit modification, the permittee shall submit to DEQ for review and approval, an evaluation of the current groundwater well monitoring network. The permittee shall determine whether the present monitoring wells network provide adequate characterization of the site (specifically MU-00504 (Goitiandia) and MU-00505 (East Gillette) sites). The permittee shall prepare a report that discusses the evaluation and the proposal for modification/improvement of the groundwater monitoring network as needed.

The Department, including its agents, employees and representatives, shall not be liable for any injuries or damages to persons or property resulting from the issuance of this permit modification or the acts or omissions of the permittee in carrying out activities pursuant to this permit modification. The permitee shall hold harmless and indemnify the Department with respect to any and all claims or causes of action arising from or on account of activities carried out by the permittee pursuant to this permit modification.

The modification described above and referred to as Appendix "D" is hereby approved. This appendix to the permit is incorporated into and constitutes a part of Permit No. LA-000050-02. This appendix must be attached to the permit. The permit is incomplete and unlawful under the Wastewater-Land Application Permit Regulations without this appendix attached.

Sincerely,

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Doug Howard Date
Regional Administrator

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